

Storage space

Blank DVDs are ideal for storing data, from digital photos to your favourite TV programme. We help you choose the best

For more than 15 years we have used blank CDs to back up valuable digital photos, documents and videos. However, CDs have recently been superseded by DVDs. This is hardly surprising as, although the same physical size as CDs, DVDs can record at higher speeds and also hold far more information.

DVDs are hugely versatile products that can be used in computers as well as standalone DVD players and recorders. Their vast capacity is handy for storing a wide range of data. For instance, you could store large music compilations recorded from CDs or old vinyl LPs or transfer old VHS collections on to DVD – saving space and avoiding any possible future playback issues as video recorders

are phased out. And as most households have DVD players, it's easy to share what you've recorded with friends and family.

There's a huge range of discs on sale and, with recent innovations such as scratchproofing and dual-layer discs now available, many retail at premium prices. Yet happily our tests of eight different blank DVD-Rs, the most widely-compatible DVD format, revealed that while these new innovations do work, cheap, own-brand products also perform well. Turn to p52 for details of our Best Buys. If you need a different disc format, see 'Which should you choose?', below. Here we highlight the best discs from a further test where we assessed the speed and error rates of 21 other DVDs.

Our experts tested 29 types of blank DVD discs

DVD dissection

We use advanced software to analyse the capacity, speed and error rates of the discs. Next, we assess how well the DVD-Rs stand up to being scuffed. We use a special machine that allows us to apply a consistent, repeatable scuff across the central area of each disc. We verify the playback quality by watching ten minutes of pre-recorded footage and recheck the data error rates on a PC. Too many errors too close together and the disc will be unreadable.



Which should you choose?



Best for archiving valuable data

VERBATIM DVD-R HARDCOAT £3.83 ONLINE, PC LINE DVD+R 20p When you need to store valuable data, like wedding photos, buy a record once-only disc. This will prevent anyone accidentally recording over it. The Best Buy Verbatim Hardcoat will do well but if your machine isn't compatible with the DVD-R format, choose the own-brand PC Line DVD+R. It matched the performance of its branded rivals and was the cheapest DVD+R on test.



Best for re-recording

VERBATIM DVD-RW £1, MEMOREX DVD+RW 64p If you want a DVD you can copy to more than once, you need an RW disc. If your machine is compatible only with DVD+RW, the re-recordable Memorex disc was the joint best on test, but at just 64p was a third cheaper than its challenger from Verbatim. Need a DVD-RW? Go for the top-scoring Verbatim DVD-RW.



Best for editing

MEMOREX DVD-RAM £1.90 DVD-Rams are not widely compatible but are the most versatile discs as you can delete parts of recordings – such as adverts from TV programmes, for example. Opt for this Memorex disc, as it's the cheapest and best that we tested.

Disc capacity

The amount of recordable data that discs can store has dramatically increased in recent years. In the early 1970s we used to save data to 8-inch floppy disks which could hold only 1MB of data. Modern Blu-ray discs can store 25GB, or 25,000 times as much.



Blu-ray DVD 25GB
(5,560 pop songs)

DVD 4.7GB
(1,050 pop songs)



Dual-layer DVD 8.5GB
(1,900 pop songs)



CD up to 700MB
(160 pop songs)



HD-DVD 15GB
(3,300 pop songs)



To work out how many MP3 tracks fit on a disc, we take the size of the disc and divide it by 4.5MB – the size of a typical pop track recorded at a decent quality

Jargon buster

We set you straight about all of the different types of recordable disc that are available in the shops

■ **CD-R** The standard blank CD, these discs can be copied to only once. You will find that these discs are the cheapest.

■ **CD-RW** You can erase the data held on the disc and re-record to it.

■ **DUAL-LAYER DISCS** Normal recordable DVDs record only on a single layer. Dual-layer discs record on to two layers, almost doubling the capacity.

■ **DVD-R** The first DVD recording format and still the most commonly available. The discs are cheap and can be copied to only once, making them useful for archiving valued data (such as precious photos).

■ **DVD+R** A rival system to the DVD-R format. Similar in performance to DVD-Rs, these are also cheap, record once-only discs.

■ **DVD-RW** Re-recordable version of DVD-R discs, so ideal for recording from the TV. However, unlike DVD-Rams, it's more difficult to edit your recorded information.

■ **DVD+RW** Re-recordable version of DVD+R. Like DVD-RW discs, these are slower than record once-only ones and are also more expensive.

■ **DVD-RAM** Random access discs allow the recorder to hop all over the disc making best use of the space available, rather than forcing you to wipe the whole disc when re-recording. These discs aren't widely compatible and are quite expensive.

■ **HD-DVD** The next generation of DVD, these high-definition discs can record much more information than DVDs (see 'Disc capacity', opposite). Currently there are no standalone HD-DVD recorders available in the shops, although you can buy discs for your PC.

■ **BLU-RAY** A rival high-definition format. Similar in performance to HD-DVD. Again, you can currently record to them only via your PC.



DVD Q&A

Tom Duxbury loves taking photos and regularly backs up his images to DVD. We answer his queries about blank discs

Q How should I look after my discs to prevent damage?

A Store your discs in a cool, dry environment. Slight changes in temperature and humidity won't harm them but rapid fluctuations can cause distortion. Discs can get quite hot when being read so don't keep an important one in a DVD player or recorder for long periods. Keep them away from bright light as this can damage the dyes used in their production. Finally, avoid touching the surface as grease and acids on the skin can damage them – put a fingertip through the hole and rest a thumb on the edge.

Q What's the best way to clean my discs?

A Use a clean cotton fabric and wipe in a straight line from the

disc's centre toward the outer edge. Never clean in a circular direction around the disc. Use special cleaning fluid or wipes (£2.99 for 100 from Maplin) to remove stubborn dirt.

Q I back up photos on to DVDs. How long will the discs last?

A An accelerated-ageing study at the US National Institute of Standards and Technology yielded a life expectancy of more than ten years for DVD-R. However, there is no guarantee your discs will last that long. Back up important ones every few years to be on the safe side and be aware that in the future DVDs will become obsolete, so at some point you will have to transfer your data on to whatever supersedes them.

Q One of my discs is scratched. Can I repair it?

A SkipDoctor (right, available from Maplin from £20) sands the disc's surface to eliminate scratches. When we tested it our discs were left covered in scuffs. However, when we played them back we found the treatment had actually worked, although we were slightly concerned about the machine's abrasive wheel, which had buckled slightly in use.



Q Can I recycle old and unwanted discs?

A You can post unwanted discs to Polymer Reprocessors or London Recycling for recycling (see 'Contacts', p51). If your discs contain confidential data, destroy them or contact the recycler for advice.

Discs can get hot when read, so don't keep an important one in your DVD player or PC's drive

Watch out

Burning at high speeds can cause disappointment

Although Philips claims its DVD-R can be written to at a fast x16 speed, when we did this in our tests the discs were

unreadable – although they were readable when recorded at lower speeds. This problem didn't occur when we tested a second batch, but it does show how burning at high speeds can

sometimes lead to high error rates and unreadable discs – so always check your discs

after you've recorded to them. That way, at least you can make another copy at a lower speed if the first is unreadable.





94% Verbatim DVD-R Hardcoat £3.83 a disc

This Verbatim disc was one of only two scratch-proof discs in our test. This protection comes at a high cost, but if the data you're saving is extremely valuable it's an excellent choice. It received our highest mark for abrasion resistance and comes in a jewel case to further protect it from damage. It also achieved a high speed rating, closely matching the claimed x8 speed. Available online.

Available Online Advertised speed x8 Average speed x7.9 Packaging Jewel case



82% PC Line DVD-R 30p a disc

PC World's own-brand disc doesn't have any special scratchproof coating but still offers good protection from scratches and scuffs. Its speed is slightly lower than the other two Best Buys, although this will be noticeable only when saving very large amounts of information. Yet at only 30p a disc, it's great value and an excellent choice for everyday use. Available from PC World and Currys.digital.

Cheapest store PC World and Currys.digital Advertised speed x8 Average speed x7.1 Packaging Spindle



92% TDK DVD-R Scratch Proof £5 a disc

This TDK disc did well in our speed tests and its high score clearly shows the benefit of its special scratch-protection coating, as it performed well in our abrasion test. However, as with the Verbatim disc (left), there is a price to pay for the added protection as this disc was by far the most expensive DVD-R on test. Available from Maplin.

Cheapest store Maplin Advertised speed x8 Average speed x7.8 Packaging Jewel case

WE TESTED

- Memorex DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-Ram
- PC Line DVD+R, DVD+RW, DVD-R, DVD-RW
- Philips DVD+R, DVD+RW, DVD-R, DVD-RW
- Sony DVD+R, DVD+RW, DVD-R, DVD-RW
- TDK DVD+R, DVD+RW, DVD-R, DVD-R Scratch Proof, DVD-RW, DVD-Ram
- Verbatim DVD+R, DVD+RW, DVD-R, DVD-R Hardcoat, DVD-RW, DVD-Ram

Score

This ignores price and is based on:	
Scratch resistance	50%
Error rating	25%
Speed	25%

Contacts

London Recycling
020 7540 5730; www.london-recycling.co.uk
Memorex www.memorexlive.com
PC Line 0870 242 0444; www.pcworld.co.uk
Philips 0870 601 0101; www.philips.co.uk
Polymer Reprocessors
www.polymer-reprocessors.co.uk
TDK www.tdk-europe.com
Sony 0870 511 1999 www.sony.co.uk
Verbatim 0178 443 9781; www.verbatim-europe.com

Insider information

Our expert Jon Barrow tells you what you need to know about buying blank DVDs

Buying blank DVDs can be confusing. Walk in to any shop and you're likely to be faced with a huge range of discs that look the same but are labelled, and priced, very differently.

Your first decision is what type of disc to buy. If you want to re-record on to the disc, look for one that ends in 'RW'. If you want a one-off copy, it will end in 'R'. Next, select the correct format (either '+' or '-') for the device you are using to record the disc – consult the manual or look for a logo sticker. If you're still not sure, contact the manufacturer or look on its website.

large amounts of data using, for example, your computer. Note that the recording time actually depends on the speed of your computer's drive – the disc's rating shows the maximum speed it can be recorded to. Check the front of your drive if you are not sure what speed it is.

Packaging

Buying a spindle of 50 discs is cheaper than buying them in individual jewel cases. However, jewel cases offer far better protection for your discs and are also much easier to file and find.

Online retailers often offer unbranded

Need for speed

You also need to choose the speed of disc. Recordable discs have different ratings – it takes around an hour to record to a x1 disc, with x2 discs able to copy twice as fast, x4 four times as fast and so on. If you just want to record TV shows using a DVD recorder, speed won't matter, as you can record in real time only while the show is being broadcast. Higher-speed discs are useful if you plan to burn

products at lower prices than on the high street. This doesn't mean you shouldn't buy them, as the results of our tests show that higher prices do not necessarily mean better quality. However, it's important that you play the disc straight after recording to it. That way, if something has gone wrong, you can make another copy while you still have the chance.

